

REMARKS/ARGUMENTS

Claims 1, 12, 15, and 18 are amended, claims 3 and 13 are canceled, and claims 20-23 are added herein. Claims 14 and 19 were previously canceled. With entry of this amendment, claims 1, 2, 4-12, 15-18, and 20-23 will be pending.

Claims 1-5, 11, and 14-18 stand rejected under 35 U.S.C 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0257999 (MacIsaac).

Claim 1 is directed to a method of estimating traffic values or intervals in a communications network. The network includes a plurality of nodes connected by links. The method includes obtaining traffic data through the nodes or links as input data, obtaining network data relating to the network topology and network behaviour, and estimating the effect of a modification of the communications network or its behaviour by calculating traffic information between a selected first and a selected second node of the network using the input data. Claim 1 has been amended to clarify that traffic data includes traffic measurements for said links obtained from one or more of the nodes in the network and that the network data includes end-to-end paths in the network.

MacIsaac is directed to detecting and disabling a source of network packet flooding. A packet flood detection device is interposed between a client computer and a server computer (Fig. 1). MacIsaac do not obtain traffic data including traffic measurements for links obtained from nodes in the network. Instead, MacIsaac collects data receives packet transmitted over a link. There is no traffic measurement for links which is obtained from nodes in the network. Instead, MacIsaac collects traffic data received on a single link (e.g., link 7), which is connected to a networked device in the network 1. The detector is thus positioned to receive only traffic data transmitted to client computer 4. (See, Fig. 1 and paragraphs [0040]-[0041].)

Furthermore, MacIsaac do not obtain network data relating to the network topology and network behaviour, wherein the network data includes end-to-end paths in the network. In rejecting the claims, the Examiner refers to paragraph [0090] of

MacIsaac. This paragraph describes how a packet flooding detector receives data traffic information at a point in a network being monitored. Information is provided to a burstiness estimation mechanism and a utilization estimation mechanism. The packet flood detection device does not obtain network data relating to the network topology and network behaviour. Instead, MacIsaac simply looks at traffic received at the detection device to determine if packet flooding occurs. MacIsaac is only concerned with the traffic received at the detector and is not concerned with network topology.

Furthermore, MacIsaac do not disclose estimating the effect of a modification of the communications network or its behaviour by calculating traffic information between a selected first node and a selected second node of the network using the input data. The Examiner refers to paragraph [0046] with respect to this limitation. This section of the patent application describes how the detection device samples network traffic. The data is used to estimate a measure of the burstiness of the network traffic, which is used to determine whether packet flooding is occurring. In the Response to Arguments, the Examiner refers to a computing an estimated Hurst parameter. This is not an estimation of the effect of a modification of the network. There is no teaching of estimating the effect of a modification of a network or its behaviour. As noted above, MacIsaac only looks at received traffic data. MacIsaac does not look at network topology or behavior thus the invention cannot be used to estimate the effect of a modification of the network.

Applicants' invention as set forth in the claims, allows the impact of a modification to be estimated using the traffic data and network data from the initial, unmodified network in a relatively inexpensive way without the need to calculate traffic values using more complex models. This estimation may be used, for example, to automatically select certain modifications out of a set of possible modifications and to evaluate the impact of each modification. The best candidates for a proposed set of modifications can thus be determined and a more complex and complete analysis of these best candidates can then be performed.

Accordingly, claim 1 is submitted as patentable over MacIsaac.

Claims 2 and 4-11, depending either directly or indirectly from claim 1, are submitted as patentable for at least the same reasons as claim 1.

Claim 4 is further submitted as patentable over MacIsaac which does not disclose a modification comprising a modification of the network topology, a modified routing algorithm parameter, a modified traffic engineering constraint, or a modified traffic load. As previously discussed, there is no estimation of an effect of a modification of a network. In rejecting the claim, the Examiner refers to paragraph [0077] of MacIsaac, which describes disabling a link in response to a packet flooding condition or other action taken in response to a packet flooding condition. These actions are taken in response to determining that a packet flooding condition exists on a link. These are not modifications for which an effect is estimated, as set forth in the claims.

With regard to claim 5, MacIsaac does not disclose detecting inconsistencies in input traffic data. Instead, MacIsaac simply discusses how traffic data may be corrected to include overhead associated with each packet.

Claim 7 is further submitted as patentable because, as previously discussed, MacIsaac does not evaluate the impact of network modifications.

With regard to claim 8, the detector of MacIsaac is not located between different pairs of nodes, therefore, step (c) of claim 1 cannot be repeated for different pairs of nodes.

Since MacIsaac does not estimate the effect of a modification of the network, there is no selecting a candidate for modifying the network, as required by claims 9-11.

Claims 15-18 are submitted as patentable for at least the reasons discussed above with respect to claim 1.

Claims 6, 12, and 13 stand rejected under 35 U.S.C. 103 (a) as being unpatentable over MacIsaac in view of U.S. Patent Application Publication No. 2003/0058798 (Fielscher et al.).

The Fielscher et al. patent application is directed to approximation methods for finding minimum cost flows with shared recovery strategies. Fielscher et al. disclose a linear program that may be used to model how to route traffic. Fielscher et al. do not overcome the deficiencies of the primary reference.

For the foregoing reasons, Applicant believes that all of the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 399-5608.

Respectfully submitted,



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